CLAIMS

What is claimed is:

1. A system for framing at least a portion of a structure, said system comprising:

a base;

a plurality of lower connecting members attached to said base and extending upwardly therefrom, each of said lower connecting members comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes;

a plurality of upwardly extending support members, each of said support members comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes;

a plurality of lower joints interconnecting said upwardly extending support members and said lower connecting members, each of said lower joints interconnecting one of said support members and one of said lower connecting members, each of said support members having a cross-sectional shape which is substantially the same as a cross-sectional shape of said interconnected one of said lower connecting members;

wherein for each of said lower joints, one of said support member and said interconnected one of said lower connecting members has a reduced end portion which is inserted into the other of said support member and said interconnected one of said lower connecting members.

2. The system as recited in Claim 1, wherein:

each of said support members includes an upper end portion, a lower end portion and an intermediate portion;

said reduced end portion of each one of at least a portion of said lower joints comprises said lower end portion of the corresponding one of said support members, said lower end portion of said corresponding one of said support members being inserted into said interconnected one of said lower connecting members.

3. The system as recited in Claim 1, wherein:

each of said support members includes an upper end portion, a lower end portion and an intermediate portion;

each of said lower connecting members includes a lower portion attached to said base and an upper portion extending upwardly from said lower portion;

said reduced end portion of each one of at least a portion of said lower joints comprises said upper portion of the corresponding one of said lower connecting members, said upper portion of said corresponding one of said lower connecting members being inserted into said interconnected one of said support members.

Sub C3/4. The system as recited in Claim 2, further comprising:

an upper member;

a plurality of upper connecting members attached to said upper member and extending downwardly therefrom, each of said upper connecting members comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes;

a plurality of upper joints interconnecting said upwardly extending support members and said upper connecting members, each of said upper joints interconnecting one of said support members and one of said upper connecting members, said cross-sectional shape of each of said support members being substantially the same as a cross-sectional shape of said interconnected one of said upper connecting members;

wherein for each of said upper joints, one of said support member and said interconnected one of said upper connecting members has a reduced end portion which is inserted into the other of said support member and said interconnected one of said upper connecting members.

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5. 11 The system as recited in Claim 4, wherein:

said reduced end portion of each one of at least a portion of said upper joints comprises said upper end portion of the corresponding one of said support members, said upper end portion of said corresponding one of said support members being inserted into the interconnected one of said upper connecting members.

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16. The system as recited in Claim 4, wherein:

each of said upper connecting members includes an upper portion attached to said upper member and a lower portion extending downwardly from said upper portion;

said reduced end portion of each one of at least a portion of said upper joints comprises said lower portion of the corresponding one of said upper connecting members, said lower portion of said corresponding one of said upper connecting members being inserted into the interconnected one of said support members.

Sub C3

17. The system as recited in Claim 3, further comprising:

an upper member;

a plurality of upper connecting members attached to said upper member and extending downwardly therefrom, each of said upper connecting members comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes;

a plurality of upper joints interconnecting said upwardly extending support members and said upper connecting members, each of said upper joints interconnecting one of said support members and one of said upper connecting members, said cross-sectional shape of each of said support members being substantially the same as a cross-sectional shape of said interconnected one of said upper connecting members;

wherein for each of said upper joints, one of said support member and said interconnected one of said upper connecting members has a reduced end portion which is inserted into the other of said support member and said interconnected one of said upper connecting members.

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8. The system as recited in Claim 7, wherein:

each of said upper connecting members includes an upper portion attached to said upper member and a lower portion extending downwardly from said upper portion;

said reduced end portion of each one of at least a portion of said upper joints comprises said lower portion of the corresponding one of said upper connecting members, said lower portion of said corresponding one of said upper connecting members being inserted into the interconnected one of said support members.

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9. The system as recited in Claim 7, wherein:

said reduced end portion of each one of at least a portion of said upper joints comprises said upper end portion of the corresponding one of said support members, said upper end portion of said corresponding one of said support members being inserted into the interconnected one of said upper connecting members.

10. The system as recited in Claim 1, wherein the structure includes a foundation and wherein:

said base is attached to the foundation of the structure.

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11. The system as recited in Claim 1, wherein:

said base comprises at least one metal tube selected from the group consisting of rectangular metal tubes and square metal tubes.

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12. The system as recited in Claim 1, wherein:

each of said lower connecting members and each of said upwardly extending support members comprises a rectangular metal tube.

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13. The system as recited in Claim 1, wherein:

each of said lower connecting members and each of said upwardly extending support members comprises a square metal tube.

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14. 13 The system as recited in Claim 1, wherein:

each of said lower connecting members, said upwardly extending support members and said upper connecting members comprises a rectangular metal tube.

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15. The system as recited in Claim 1, wherein:

each of said lower connecting members, said upwardly extending support members and said upper connecting members comprises a square metal tube.

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16. The system as recited in Claim 1, wherein:

each of said lower connecting members, said upwardly extending support members and said upper connecting members comprises a rectangular metal tube.

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17. The system as recited in Claim 1, wherein:

each of said lower connecting members, said upwardly extending support members and said upper connecting members comprises a square metal tube.

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18. 11 The system as recited in Claim 14, wherein:

said upper member comprises at least one rectangular metal tube.

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19. 15 The system as recited in Claim 15, wherein:

said upper member comprises at least one rectangular metal tube.

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20. The system as recited in Claim 16, wherein:

said upper member comprises at least one square metal tube.

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21. 20 The system as recited in Claim 17, wherein:

said upper member comprises at least one square metal tube.

22. The system as recited in Claim 1, wherein:

said reduced end portion of each of said lower joints is formed by a roll reduction process.

23. The system as recited in Claim 4, wherein:

said reduced end portion of each of said lower joints is formed by a roll reduction process;

said reduced end portion of each of said upper joints is formed by a roll reduction process.

24. The system as recited in Claim 7, wherein:

said reduced end portion of each of said lower joints is formed by a roll reduction process;

said reduced end portion of each of said upper joints is formed by a roll reduction process.

25. The system as recited in Claim 1, wherein:

each one of at least a portion of said support members is staked to the interconnected one of said lower connecting members.

26. The system as recited in Claim 1, wherein:

each one of at least a portion of said support members is fastened to the interconnected one of said lower connecting members.

27. The system as recited in Claim 7, wherein:

said upper member is substantially horizontally extending.

28. The system as recited in Claim 7, wherein:

said upper member is inclined relative to horizontal.

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29. A system for framing at least a portion of a structure having a foundation, said system comprising:

a plurality of ~~exterior~~ wall frames interconnected to one another and ~~extending~~ extendable upwardly from the foundation of the structure, wherein each of said wall frames includes:

a base attached~~ed~~able to the foundation of the structure;

a plurality of lower connecting members attached to said base and extending upwardly therefrom, each of said lower connecting members comprising a rectangular metal tube;

a plurality of upwardly extending support members, each of said support members comprising a rectangular metal tube;

a plurality of lower joints interconnecting said plurality of said support members and said plurality of said lower connecting members, each of said lower joints interconnecting one of said support members and one of said lower connecting members, wherein for each of said lower joints one of said support member and said interconnected one of said lower connecting members has a reduced end portion which is inserted into the other of said support member and said interconnected one of said lower connecting members;

an upper member made of metal;

a plurality of upper connecting members attached to said upper member and extending downwardly therefrom, each of said upper connecting members comprising a rectangular metal tube, each of said upper connecting members being aligned with one of said lower connecting members;

a plurality of upper joints interconnecting said support members and said upper connecting members, each of said upper joints interconnecting one of said support members and one of said upper connecting members, each of said support members extending between one of said lower connecting members and said aligned one of said upper connecting members;

wherein for each of said upper joints, one of said support member and said interconnected one of said upper connecting members has a reduced end portion which

is inserted into the other of said support member and said interconnected one of said upper connecting members.

30. The system as recited in Claim 29, wherein:

said reduced end portion of each of said lower joints is formed by a roll reduction process.

31. The system as recited in Claim 30, wherein:

said reduced end portion of each of said upper joints is formed by a roll reduction process.

32. The system as recited in Claim 29, wherein at least one of said exterior wall frames further includes:

a window frame disposed between and connected to said base and said upper member.

33. The system as recited in Claim 29, wherein at least one of said exterior wall frames further includes:

a door header disposed below and supported by said upper member.

34. The system as recited in Claim 33, wherein said door header comprises a garage door header.

35. The system as recited in Claim 32, wherein said at least one of said exterior wall frames further includes:

a second plurality of lower connecting members attached to said base and extending upwardly therefrom;

a plurality of lower window frame connecting members attached to and extending downwardly from said window frame, each of said lower window frame connecting members being aligned with one of said second plurality of said lower connecting members;

a second plurality of upwardly extending support members, each of said second plurality of support members extending between and connected to one of said second plurality of said lower connecting members and said aligned one of said lower window frame connecting members;

wherein each of said second plurality of said lower connecting members, said plurality of lower window frame connecting members and said second plurality of support members comprises a rectangular metal tube.

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36. The system as recited in Claim 35, wherein said at least one of said exterior wall frames further includes:

a second plurality of upper connecting members attached to said upper member and extending downwardly therefrom;

a plurality of upper window frame connecting members attached to and extending upwardly from said window frame, each of said upper window frame connecting members being aligned with one of said second plurality of upper connecting members;

a third plurality of upwardly extending support members, each of said third plurality of said support members extending between and connected to one of said second plurality of said upper connecting members and said aligned one of said upper window frame connecting members;

wherein each of said second plurality of upper connecting members, said plurality of upper window frame connecting members and said third plurality of said support members comprises a rectangular metal tube.

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37. The system as recited in Claim 28, further comprising:

an interior wall frame attached to and extending inwardly from one of said exterior wall frames, said interior wall frame including:

a base attached to the foundation of the structure;

a plurality of lower connecting members attached to and extending upwardly from said base;

an upper member spaced apart from said base;

a plurality of upper connecting members attached to and extending downwardly from said upper member, each of said upper connecting members being aligned with one of said lower connecting members;

a plurality of upwardly extending support members, each of said support members of said interior wall frame extending between and connected to one of said lower connecting members and an aligned one of said upper connecting members.

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38. A system for framing a structure comprising:

a first base;

a second base laterally spaced apart from said first base;

a first plurality of lower connecting members attached to said first base and extending upwardly therefrom, each of said first plurality of lower connecting members comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes;

a plurality of upwardly extending first side posts, each of said first side posts comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes;

a first plurality of lower joints, each of said lower joints interconnecting one of said first plurality of lower connecting members and one of said first side posts, wherein for each of said first plurality of lower joints, one of said first side posts and said interconnected one of said first plurality of lower connecting members has a reduced end portion which is inserted into the other of said first side post and said interconnected one of said first plurality of lower connecting members, each of said first side posts having a cross-sectional shape which is substantially the same as the cross-sectional shape of said interconnected one of said first plurality of lower connecting members;

a second plurality of lower connecting members attached to said second base and extending upwardly therefrom, each of said second plurality of lower connecting members comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes, each of said second plurality of lower connecting members having a cross-sectional shape which is substantially the same as said cross-

sectional shape of said first plurality of lower connecting members and said plurality of first side posts, each of said second plurality of lower connecting members being aligned with one of said first plurality of said lower connecting members;

a plurality of upwardly extending second side posts, each of said second side posts comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes;

a second plurality of lower joints, each of said lower joints interconnecting one of said second plurality of lower connecting members and one of said second side posts, wherein for each of said second plurality of lower joints, one of said second side post and said interconnected one of said second plurality of said lower connecting members has a reduced end portion which is inserted into the other of said second side post and said interconnected one of said second plurality of said lower connecting members, each of said second side posts having a cross-sectional shape which is substantially the same as a cross-sectional shape of said interconnected one of said second plurality of said lower connecting members;

a plurality of bridge members, each of said bridge members extending between and interconnecting one of said first side posts and one of said second side posts.

39. The system as recited in Claim ~~36~~ 37, wherein each of said bridge members includes:

a pair of rafters and a peak disposed between and connected to each one of said pair of rafters; and

wherein for each said bridge member, a first one of said rafters is connected to one of said first side posts and the other one of said rafters is connected to one of said second side posts which is aligned with said one of said first side posts;

each of said rafters and said peaks comprising a metal tube selected from the group consisting of rectangular metal tubes and square metal tubes.

40. A method of constructing a framing system for use in framing at least a portion of a structure, said method comprising the steps of:

providing a base made of metal;

making each one of a plurality of lower connecting members from a four-sided metal tube;

attaching each one of the lower connecting members to the base;

making each one of a plurality of support members from a four-sided metal tube;

interconnecting each one of the support members to one of the lower connecting members so that each of the support members extends upwardly from the interconnected one of the lower connecting members, said step of interconnecting comprising the steps of:

forming a reduced end portion on one of the support member and the lower connecting member for each interconnected pair of the support members and the lower connecting members;

inserting the reduced end portion into the other of the support member and the lower connecting member for each interconnected pair of the support members and the lower connecting members.

41. The method as recited in Claim 40, wherein said step of forming comprises the step of:

roll reducing one end of one of the support member and the lower connecting member for each interconnected pair of the support members and the lower connecting members.

42. The method as recited in Claim 41, further comprising the steps of:

providing an upper member comprising at least one four-sided metal tube;

making each one of a plurality of upper connecting members from a four-sided metal tube;

attaching each one of the upper connecting members to the upper member;

interconnecting each one of the support members to one of the upper connecting members, said step of interconnecting each one of the support members to one of the upper connecting members comprising the steps of:

forming a reduced end portion on one of the support member and the upper connecting member for each interconnected pair of the support members and the lower connecting members;

inserting the reduced end portion into the other of the support member and the lower connecting member for each interconnected pair of the support members and the lower connecting member.

43. 42 The method as recited in Claim 42, 41 wherein said step of forming the reduced end portion on one of the support member and the upper connecting member comprises the step of:

roll reducing one end of one of the support member and the upper connecting member for each interconnected pair of the support members and the upper connecting members.

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